The 1981-1983 West Coast Troll Log Book Project: 4. Biological Data for Chinook *(Oncorhynchus tshawytscha)* and Coho *(O. kisutch)* Salmon

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January 1986

Canadian Data Report of Fisheries and Aquatic Sciences No. 573

86-04182/

Canadian Data Report of Fisheries and Aquatic Sciences

These reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of Data Reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries management, technology and development, ocean sciences, and aquatic environments relevant to Canada.

Numbers 1-25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26-160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series name was changed with report number 161.

The correct citation appears above the abstract of each report.

Rapport statistique canadien des sciences halieutiques et aquatiques

Ces rapports servent de base à la compilation des données de classement et d'archives pour lesquelles il y a peu ou point d'analyse. Cette compilation aura d'ordinaire été préparée pour appuyer d'autres publications ou rapports. Les sujets des Rapports statistiques reflètent la vaste gamme des intérêts et politiques du Ministère des Pêches et des Océans, notamment gestion des pêches, techniques et développement, sciences océaniques et environnements aquatiques, au Canada.

Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161.

Le titre exact paraît au haut du résumé de chaque rapport.

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THE 1981-1983 WEST COAST TROLL LOG BOOK PROJECT: 4. BIOLOGICAL DATA FOR CHINOOK (*Oncorhynchus tshawytscha*) AND COHO (*O. kisutch*) SALMON

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Cat. No. Fs 97-13/573E ISSN 0706-6465

Correct citation for this publication:

Healey, M. C., B. Riddell, F. P. Jordan, and J. F. T. Morris. 1986. The 1981-1983 West Coast Troll Log Book Project: 4. Biological data for chinook (Oncorhynchus tshawytscha) and coho (O. kisutch) salmon. Can. Data Rep. Fish. Aquat. Sci. 573: 1036 p.

ABSTRACT

Healey, M. C., B. Riddell, F. P. Jordan, and J. F. T. Morris. 1986. The 1981-1983 West Coast Troll Log Book Project: 4. Biological data for chinook (Oncorhynchus tshawytscha) and coho (O. kitutch) salmon. Can. Data Rep. Fish. Aquat. Sci. 573: 1036 p.

The 1981-1983 West Coast Log Book Project was carried out to obtain information on the commercial troll fishery in all outside fishing areas of British Columbia. In this study trollers were asked to record, in log books provided by the Fisheries Research Branch, information on daily catch composition and on some biological parameters of the catch. In the first report in this series dealing with the project, a full description of the design of the project is provided (Healey et al. 1985a). This report presents the biological data for chinook (Oncorhynchus tshawytscha) and coho (O. kisutch) salmon that were sampled from each vessel's daily catch.

RESUME

Healey, M. C., B. Riddell, F. P. Jordan, and J. F. T. Morris. 1986. The 1981-1983 West Coast Troll Log Book Project: 4. Biological data for chinook (Oncorhynchus tshawytscha) and coho (O. kitutch) salmon. Can. Data Rep. Fish. Aquat. Sci. 573: 1036 p.

On a réalisé le projet du registre de pêche sur la côte ouest entre 1981 et 1983 pour obtenir des informations sur la pêche commerciale à la traîne effectuée dans toutes les zones de pêches situées au large de la Colombie-Britannique. Dans le cadre de cette étude, on a demandé aux pêcheurs à la traîne de consigner, dans des registres fournis par la Direction de la recherche sur les pêches, des renseignements sur la composition des prises quotidiennes et sur certains paramètres biologiques des prises. Dans le premier rapport de cette série portant sur le projet, on décrit en détail ledit projet (Healey et al. 1985a). Le présent rapport présente les données biologiques concernant les saumons quinnat (Oncorhynchus tshawytscha) et coho (O. kisutch) qui ont été échantillonnées à partir des prises journalières de chaque bateau de pêche.

INTRODUCTION

During the 1981 to 1983 troll fishing seasons we conducted a study of the British Columbia troll fishery. This study, which was titled "The West Coast Troll Log Book Project", had two broad objectives: 1) to describe the seasonal and regional variations in catch rate and catch composition of trollers and 2) to relate fleet distribution to capture success and oceanographic conditions.

A full description of the design of the project is provided in the report entitled "The 1981-1983 West Coast Troll Log Book Project: 1) Outline of the project and data are catch of chinook (Oncorhynchus tshawytscha) and coho (O. kitsutch) salmon".

This report is concerned only with the presentation of the biological data from chinook and coho salmon sampled from the daily catch by each trolling vessel over the 3 year span of the project.

DESCRIPTION OF DATA COLLECTION

Troll fishermen were asked to record, on log book sheets that we supplied, fork lengths and sex for both chinook and coho salmon, and flesh colour for chinook, for up to a maximum of 25 fish each day for each species. They were also asked to collect scales from chinook salmon for age analysis.

Fifty-three vessels contributed biological information on the catch during the three years of the project. In 1981, 1982, and 1983 there were 35, 20, and 26 vessels respectively providing data. Nine vessels reported in all 3 years. Seven reported for 2 years, 4 in 1981 and 1982, and 3 in 1982 and 1983. This sample of vessels represents 1.5-2.5% of the coastal troll fleet.

THE ARRANGEMENT OF FIGURES AND TABLES

Figure 1 shows the statistical areas within which catch was recorded.

Table 1 presents the biological data from the chinook and coho sampled from the daily catch by each trolling vessel over the 1981-1983 seasons.

Table 1 is on microfilm in the attached envelope. A hard copy of the table can be obtained by contacting Dr. M. C. Healey at the Pacific Biological Station, Hammond Bay Road, Nanaimo, B. C., Canada V9R 5K6.

The first page of Table 1 has been included in the text to enable the reader to better see how the table is organized.

The column headings "STAT AREA", "LENGTH", and "COLOUR", are short-hand for "statistical area", "fork length", and "flesh colour" respectively.

The hierarchy of the table is vessel number > year > month > day > statistical area.

For most "vessel number, date, statistical area" sets the number of chinook and coho sampled is unequal. When this occurs, the first N observations of this set written across the table contain both chinook and coho data, where N represents the number of fish in the smallest sample. The remainder of the observations will contain only the information from the largest sample. The missing values from the smallest sample in these last observations are represented by periods.

It should be noted that N can and in many cases does equal zero. This of course means that for these "vessel number, date, statistical area" sets only one species was caught and sampled. Again, the missing values from the unsampled species in these observations are represented by periods.

Missing values elsewhere in the data set are also represented by periods.

The vessel numbers used in this report have been coded to protect the anonymity of the individual fisherman's data. Individual vessel codes are the same in all reports associated with the West Coast Troll Log Book Project, so that data from particular vessels can be cross-referenced between reports.

Fork lengths were measured to the nearest cm from the tip of the snout to the fork of the tail.

Flesh colour of chinook salmon is indicated by either an R for red or a W for white.

The age of chinook salmon is represented by a European system which separates the number of years spent in fresh water and at sea. The numeral in front of the decimal indicates the number of fresh water annuli and the numeral coming after gives the number of salt water annuli. Thus, a chinook salmon whose age is recorded as 1.4 has completed 1 year in fresh and and 4 years at sea.

ACKNOWLEDGMENTS

Many people contributed to the success of this program. Chief among these were the fishermen who provided us with the data. Also involved in the project were Rus Schmidt, Bob Ball, Ted Carter, Louis Lapi, and various summer students.

PREVIOUS REPORTS IN THE SERIES

Healey, M. C., B. Riddell, F. P. Jordan, and J. Morris. 1985a. The 1981-1983 West Coast Troll Log Book Project: 1. Outline of the project and data on catch of chinook (Oncorhynchus tshwytscha) and coho (O. kisutch) salmon. Can. Data Rep. Fish. Aquat. Sci. 546: 145 p.

Healey, M. C., B. Riddell, F. P. Jordan, and J. Morris. 1985b. The 1981-1983 West Coast Troll Log Book Project: 2. Data on catch of pink (Oncorhynchus gorbuscha) and sockeye (O. nerka) salmon. Can. Data Rep. Fish. Aquat. Sci. 541: 135 p.

Healey, M. C., B. Riddell, F. P. Jordan, and J. Morris. 1985c. The 1981-1983 West Coast Troll Log Book Project: 3. Data on catch of chum (Oncorhynchus keta) salmon and steelhead (Salmo gairdneri) trout. Can. Data Rep. Fish. Aquat. Sci. (in press).

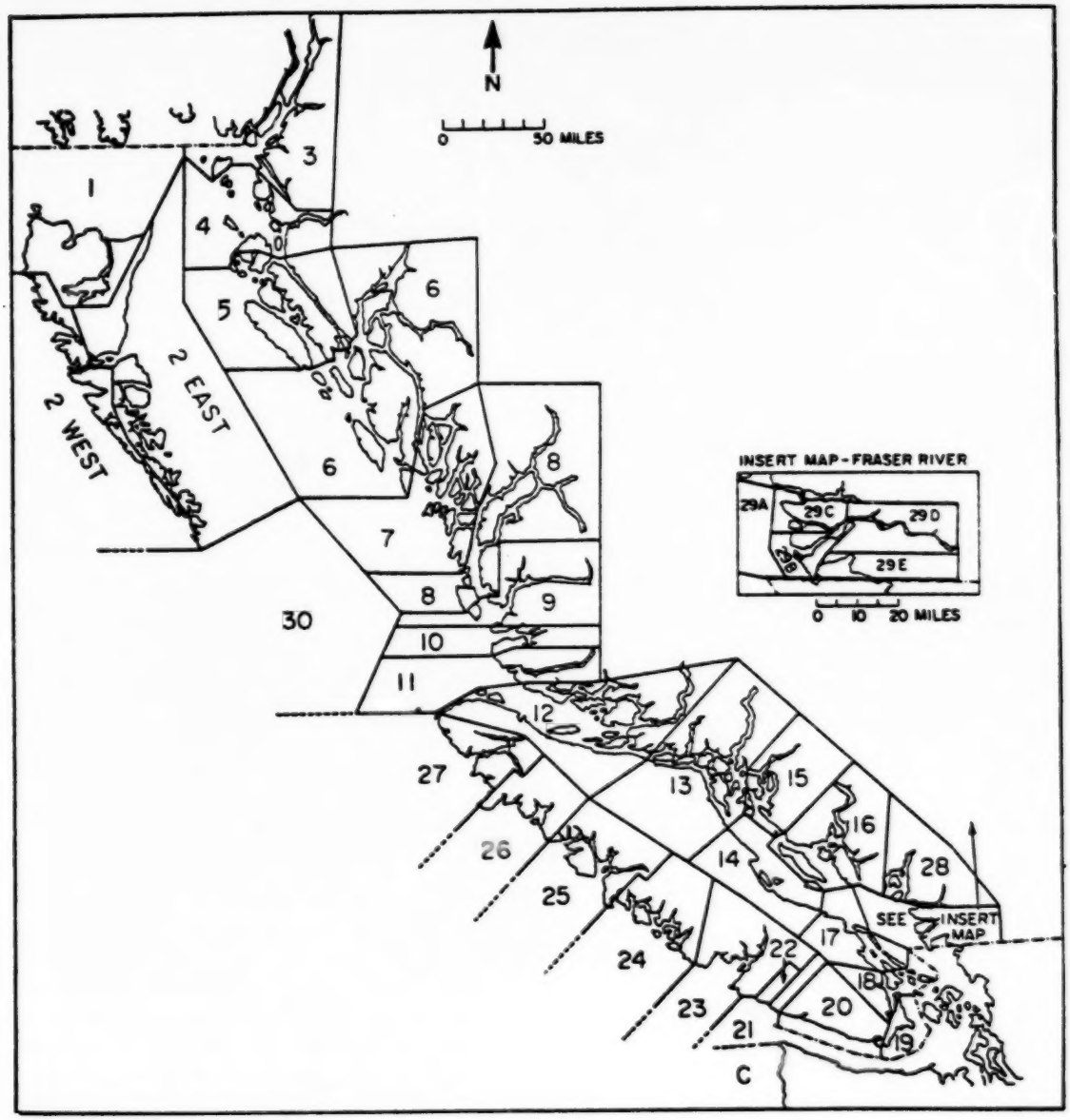

Fig. 1. Statistical fishing areas off the British Columbia coast.

Table 1. Biological data from the chinook and coho sampled from the daily catch by each trolling vessel over the 1981-1983 seasons.

NOTE: Table 1 available in microfiche only.